resource trading requests to balance the overbooked resources; the registration function is informed about the successful assignment of resources.

[0100] If the network service and business planning process detects a missing resource by receiving a request information response, a reject message, or a resource overbooking situation, a resource trading request for the missing resource may be generated and sent to the resource trading function of the resource controller. Another approach to trade resources may be that the operator may plan to offer either network sharing services or a direct sharing of a resource (e.g. spectrum sharing). In the latter case the resource may be requested by the sharing service as described above and then offered to other operators. Depending on the trade type it is possible to define a resource trade being valid for a defined period of time or for a point of time as follows:

[0101] Type1=resource auction: the trading function collects corresponding offers or requests from other operators until end of the defined period before starting the evaluation via the rating and booking engine. The best matching offer/request pair from other operators will be accepted and all other operator offers or requests shall be rejected.

[0102] Type2=resource shop: the trading function evaluates a corresponding offer/request match from other operators case by case and decides via the rating and booking engine to accept or reject the offer or request. As soon as the trade is accepted for the traded resource, the trade will be closed, i.e. all subsequent offers or requests from other operators are rejected from the resource trading function.

[0103] Further trade types may be introduced to realize other, more complex trading models. Examples: A model is introduced to allow the splitting of an offered resource to match with more than one other operator resource requests. Further models may introduce auctions based on the primary or secondary auction types, e.g. English auction, Dutch auction, combinatorial auction.

[0104] Additionally to the trade type, the trade method may be defined to distinguish between following trading models:

[0105] Method=master: the trade request or offer is stored locally; other platforms are informed about the open request or offer. When another platform sends a respective offer to an open request or vice versa the resource trading function may perform the evaluation and may inform the other platforms which have provided an offer or request about the evaluation result

[0106] Method=slave: the trade request or offer is used to send an answer to open master trades from a partner trading platform. The partner platform may perform the evaluation and informs the resource trading function about the evaluation result

[0107] Based on the trade method, the trading function may act either in the client role or in the merchant role.

[0108] FIG. **3** shows a principle setup of the resource trading function. In particular, FIG. **3** shows a trading system or resource managing unit **301** of a resource controller. The center part of the trading system **301** represents a Client/Merchant system. Its core component comprises a trading database **302** where the operator can place a request or offer for given resources, represented by a database record "trade request resource" or "trade offer resource". Here, the type of the resource, e.g. a transport bandwidth (in case of a transport provider) or a spectrum (in case of a mobile network operator)—or whatever—can be specified. Additionally, further information or descriptions specifying the offer needs to be provided either locally or as reference to other databases (e.g. the network resource database for technical parameters and a trading data base for commercial and business data): the size of the resource (e.g. bandwidth in Mbps of spectrum in MHz), the time period in which this resource is available, the geographical area where the resource can be used, specific constrains for a resource, and the prize for the traded resource. Such restrictions could, for example comprise of a limited period of time for which the merchant wants to get the resources back. In detail: a merchant offers the resource with the constraint that he might request back the resource for 2 h upon a 1 h notice. Rules to select the best offer from other operators for requested resources and best fitting requests from other operators to offered resources may be provided as predefined policies to the rating and booking engine **303**. Those rules could be: offer at a fixed prize, auction with a minimum prize for a maximum period or others.

[0109] In addition to resource offers, resource requests can be issued by operators in a "request resource" template. Those comprise of a similar set of the resource description as exists for offers, however, resource offers and requests that use the trading method "master" should include a rule defining how to trade (trade type).

[0110] The trading database **302** comprises a number of records that represent resource requests and another number of records that represent of resource offers. Both kinds of templates can be stored in one database or in separate ones. With a resource type indicator being used, the trading database may handle a variety of different resource types and client/merchant types, respectively.

[0111] It is assumed that other resource traders, e.g. operators and resource owners have a subscription context with the trading function. Such subscriptions typically result in trader-ID/merchant indication/client indication/password sort of context (denoted as credentials further on). Credentials for resource traders are stored in an authentication database A-DB database **304** in FIG. **3**. The procedure of subscriptions is state of the art in electronic ware houses and thus not described here.

[0112] The resource trading system **301** may hold two other databases. One (CR-DB) **305** which stores the contexts of trader-IDs with a client role and the corresponding index that allows to point to the corresponding resource template in the trading database, these contexts again being referenced by the index in the CR-DB database (request index). The other (MO-DB) database **306** which stores the contexts of trader-IDs with a merchant role and the corresponding index that allows to point to the corresponding offer template in the trading database, these contexts again being referenced by the index in the MO-DB database (offer index).

[0113] Finally, there may be a function that allows merchants and clients to communicate with the trading function by respective M-IO **307** and C-IO interfaces **308**. The communication can be based on HTTP or use more advanced IP based protocols such as RADIUS and DIAMETER.

[0114] Furthermore there may be an authentication function (Ruth) **309** which allows verifying the validity of access